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(71) Applicant (for all designated States except US):
SWEDEMOUNT AB [SE/SE]; Stockholmsvägen 10,
S-611 33 Nyköping (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only) : LUNDSTRÖM,
Berndt [SE/SE]; Box 18, S-610 50 Jönåker (SE).

(74) Agent: WÄRULF, Olov; Sköldvägen 36, S-613 00 Oxel-
ösund (SE).

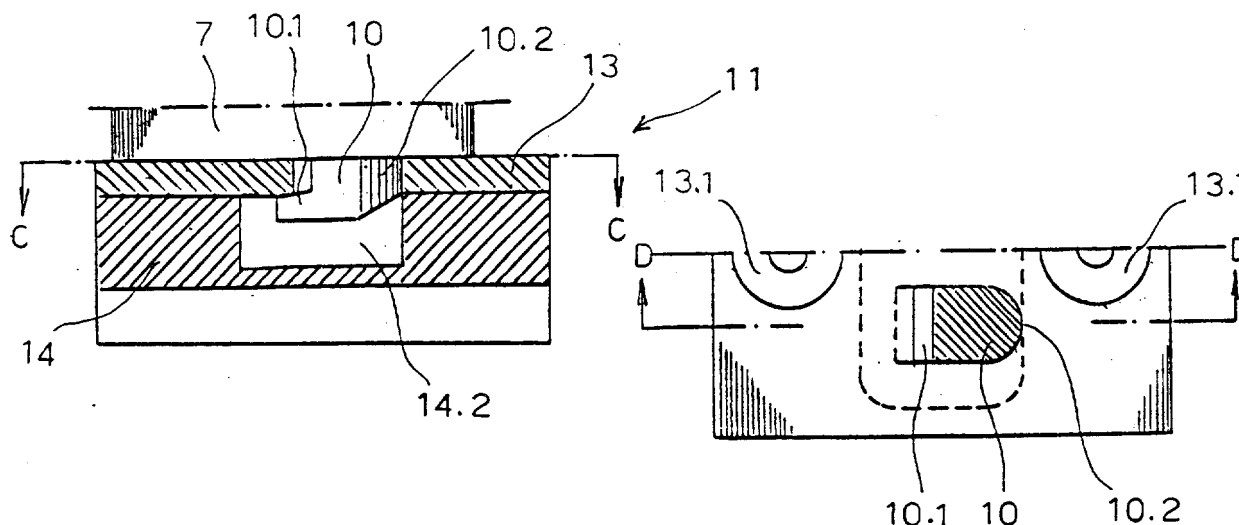
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(54) Title: A QUICK-MOUNTING FOR A TELESCOPIC SIGHT



(57) Abstract

A quick-mounting for a telescopic sight (2) proposed for a gun (1), which sight is carried partly of a rear mounting (3) and partly of a front mounting (4), each including a base (7), and preferably a clamp (8) attached on each base (7), by which the telescopic sight (2) is kept fixed towards each base (7), at which the base (7) on each mounting (3, 4) is provided with one or more hook-like means (10, 15), which, at the mounting of the telescopic sight (2) on the gun (1), are brought down to into corresponding openings (13.2, 18.2) in fastening means (11, 16) corresponding to each mounting (3, 4) and brought into engagement with the corresponding locking means (13, 20), which is arranged on the fastening means (11, 16), which in its turn directly or indirectly are attached on the gun (1), and at which at least one locking means (20) on one fastening means (16) is disconnectable relative to the corresponding hook-like means (15), by which these hook-like means (15) can be brought out of engagement so that the telescopic sight (2) can be removed from the gun (1).

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A QUICK-MOUNTING FOR A TELESCOPIC SIGHT

TECHNICAL AREA

5 The present invention concerns a quick-mounting
for a telescopic sight for a gun, which sight preferably
is constituted by a metal tube provided with lenses,
which is carried partly of a rear mounting and partly of
a front mounting, each including a base, and preferably a
clamp attached on each base, by which the telescopic
10 sight is kept fixed towards each base.

BACKGROUND TECHNICS

Known mountings for telescopic sights are pre-
ferably constituted by two bases, which are provided with
a clamp, which fix the telescopic sight towards each base
15 by screws connecting a clamp with a base. The bases can
be firmly attached directly on the receiver of the gun or
removable attached on one or two metal prisms, which in
its turn are attached on the receiver on the gun. In the
latter case each base is provided with a groove by which
20 the base is attached on the prism and provided with a
fixing device, e.g. in the shape of a locking lip which
is operated by a screw. It also occurs two bases to be
attached on a common mounting plate, which is provided
with one or more locking lips which is operated by help
25 of screws towards the prism.

A drawback with the up to now known mountings
for telescopic sights is that it is proportionally time-
-demanding to mount the telescopic sight on the gun. The
bases of the telescopic sight, or the base plate, upon
30 which the bases can be attached, often are provided with
so called dovetail slots, which are to be matched into a
corresponding dovetail of the metal prism which is at-
tached on the receiver on the gun. Similarly one or more
screws have to be screwed up to fix the bases respective
35 the base plate on the metal prism.

DESCRIPTION OF THE INVENTION

The purpose with the present invention is to

achieve a mounting for a telescopic sight for a gun,
which sight quicker can be mounted on the gun but what is
known up to now. The quick-mounting according to the in-
vention is intended to be used at a telescopic sight con-
stituted by a metal tube provided with lenses, which is
5 carried partly of a rear mounting and partly of a front
mounting, each including a base, and preferably a clamp
attached on each base, by which the telescopic sight is
kept fixed towards each base. The invention is characte-
10 rized in that the base on each mounting is provided with
one or more hook-like means, which, at the mounting of
the telescopic sight on the gun, are brought down into
corresponding openings in fastening means corresponding
each mounting, and brought into engagement with corre-
15 sponding locking means, which are arranged on the faste-
ning means, which in its turn directly or indirectly are
attached on the gun. By hook-like means, members are meant
in a wide sense, which can be brought into a positive
locking with another means. Further at least one locking
20 means is disconnectable relative to the corresponding
hook-like means, at which the hook-like means can be
brought out of engagement with the corresponding faste-
ning means so that the telescopic sight can be removed
from the gun.

25 Preferably each hook-like means show a part pro-
jecting towards the rear end of the gun, i.e. butt, which
is in contact with each locking means, at which the pro-
jecting part shows a contact surface towards the locking
means, which is inclining towards the bottom of each fas-
30 tening means. Further the disconnectable locking means
show a contact surface inclining in the same direction as
the inclining contact surface of the corresponding pro-
jecting means, or in an angle of inclination towards the
bottom of the fastening means which is greater than the
35 angle of the contact surface of the projecting means.

In a preferred embodiment of the invention each
hook-like means show a semi-cylinder section directed

towards the front end of the gun, i.e. muzzle, extending mainly normal to the length direction of the telescopic sight, and which connects with the corresponding semi-cylinder shape of each opening in the fastening means.

5 The disconnectable locking means also is loaded by forces from one or more springs, which push the hook-like means towards the front edge of each opening in the fastening means. By this a good fit-up is achieved between the hook-like means and the corresponding opening in the fastening means, which in its turn makes each mounting in an

10 exact position relative to each fastening means. By the forwards directed semi-cylinder sections of the hook-like means, bearing on the corresponding semi-cylinder sections in the fastening means, each mounting keeps its

15 position relative to each fastening means when the gun is fired and makes a recoil, at which forces of reaction from the mass of the telescopic sight arise at the semi-cylinder contact surfaces. Also the disconnectable locking means is subjected to mass forces of the same kind

20 why it is a great advantage with its locking function towards the muzzle of the gun. By that no risk exists that the disconnectable locking means will open by itself by the recoil of the firing.

The manufacturing of the quick-mounting according to the invention is facilitated by each fastening means showing a bottom, which is provided with a cover, in which openings for the hook-like means are arranged, at which each bottom is constituted by a square prism, in which the cavities as been made by milling. Also the openings in the cover to each fastening means has been

25 achieved by milling. In a special embodiment of the invention the cover of the rear fastening means after the milling has been shaped in the way that the rear edge of each opening is straight and extending normal to the

30 length direction of the gun. By this a better contact between the rear hook-like means and the cover of the rear fastening means will be achieved, which constitutes

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a firm locking means.

Preferably the bottom of each fastening means is provided with a so called dovetail slot, which however can be replaced by grooves of other shape as well as other fastening means.

In the preferred embodiment of the invention only the front fastening means is provided with a disconnectable locking means, while the rear fastening means shows a cover which constitutes locking means as mentioned above. The telescopic sight is mounted on the gun by bringing the hook-like means of the rear mounting of the sight down into the openings in the cover in the rear fastening means, bringing the projecting parts of the hook-like means into engagement at the under-side of the cover. The telescopic sight is now turned around an axis located in the point of contact between the cover and the hook-like means, the way that its front mounting is brought into contact with the front fastening means, at which the disconnectable locking means by itself is brought to spring away when the hook-like means in the front mounting are pushed down through the openings in the cover of the front fastening means, or the disconnectable locking means are brought backwards to the butt in the way that the hook-like means can be brought down into the openings in the cover. The telescopic sight is removed in the opposite order however with the difference that the disconnectable locking means must be moved backwards by hand before the hook-like means can be released from the cover of the front fastening means in the two cases above.

By providing the two mountings of the telescopic sight with two hook-like means instead of one hook-like means twice as many contact surfaces at each fastening means will be achieved. This in its turn will bring an additional security concerning the fixation of the position relative to the gun.

DESCRIPTION TO DRAWINGS

The invention is described below as an embodiment in connection to drawings enclosed.

5 Figure 1 shows a gun which is provided with a telescopic sight mounted on the upper side of the gun.

Figure 2 shows an enlargement of the telescopic sight mounted on a fastening plate which is removed from the gun.

10 Figure 3 shows an enlargement of a detail of the rear quick-mounting in a view from behind towards the muzzle of the gun.

Figure 4a-4f show the rear quick-mounting, complete as well as in parts.

15 Figure 5a-5g show the front quick-mounting, complete as well as in parts.

Figure 6 shows the rear quick-mounting in an enlargement and in a vertical section.

Figure 7 shows the rear quick-mounting according to figure 6 in a horizontal section.

20 Figure 8 shows the front quick-mounting in an enlargement and in a vertical section.

Figure 9 shows the front quick-mounting according to figure 8 in a horizontal section.

25 A gun 1 according to figure 1 and 2 is provided with a telescopic sight 2 mounted in two mountings 3, 4. The mountings 3, 4 are attached on a prism 5, which in its turn is firmly screwed on the receiver 6 of the gun 1. Each mounting 3, 4 according to figure 3, includes a base 7, showing a semi-circular, concave surface and a clamp 8, which also shows a corresponding semi-circular surface, at which the base 7 and the clamp 8 together show a cylindric fastening surface, in which the telescopic sight 2 is fixed. The base 7 as well as the clamp 8 can be manufactured of steel. However the clamp 8 preferably is manufactured of a aluminium or polyamid plastic. The clamp 8 is attached on the base 7 by help of screws 9 arranged in pairs on each side of the fastening surface. By

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the elasticity, which is achieved in the clamp 8 when tightening the screws 9, the telescopic sight 2 is elastically clamped in the fastening surface of the mounting 3. Each base 7 is provided with hooks 10, 15 at its flat bottom surface, by which it will be hooked to the corresponding fastening means 11, 16, which in its turn is firmly attached on the prism 5 on the receiver 6 of the gun 1. Each mounting 3, 4 and the corresponding fastening means 11, 16 is shown from one side and dismounted on figure 4a,b and 5a,b.

The rear fastening means 11, according to figure 4b, is shown partly in a view from above on figure 4c and partly dismounted on figure 4d, which shows its cover 13 in a view from above, and on figure 4e which shows its bottom 14, also in a view from above. The cover 13 shows counterbored holes 13.1 for two screws 12, which are firmly screwed into the bottom 14 in corresponding holes 14.1. Further the cover 13 shows two openings 13.2, through which the hooks 10 on the base 7 of the rear mounting 3 are brought down and to catch under the edge of the cover 13, at which the hooks 10 are projecting into a cavity 14.2 in the bottom 14. The design and function of the rear hooks 10 are closer described according to figure 6 and 7. Further the bottom 14 shows a so called dovetail groove 14.3 at its under-side, by which the rear fastening means 11 is attached on a prism 5 with a corresponding shape. This will be clear from figure 4f, which is a view of the bottom 14 along the line A-A on figure 4e.

The front fastening means 16, according to figure 5b, is shown partly in a view from above on figure 5c and partly dismounted on figure 5d, which shows its cover 18 in a view from above, and on figure 5e, which shows its bottom 19, also in a view from above. The cover 18 shows two countersunk holes 18.1 for two screws 17 which are firmly screwed into the bottom 19 in the corresponding holes 19.1. Further the cover 18 shows two

openings 18.2, through which the front hooks 15 on the base 7 of the front mounting 4 is projecting and is locked by help of a locking means 20, which is moveable arranged in a cavity 19.2 in the bottom 19, so that its locking bar 20.1 can be brought in connection with the hooks 15. The design and funktion of the front hooks 15 is closer described in connection with figure 8 and 9. Further the bottom 19 shows a dovetail groove 19.3 at its under-side, by which the front fastening means 16 is attached on the prism 5 which also carries the rear fastening means 11. This can be seen from figure 5g, which is a view of the bottom 19 along the line B-B on figure 5e.

On figure 6 the rear mounting 3 is fragmentary shown and with the rear hooks 10 brought down into the rear fastening means 11. This situation is achieved by setting the telescopic sight, with screwed on mountings 3, 4, with the rear mounting 3 towards the rear fastening means 11 in an angle which is shown chain-dotted on figure 2. When the rear mounting 3 after that is turned, until its front mounting 4 is close to the front fastening means 16, a backwards projecting rectangular part 10.1 of the hooks 10 is brought to move under the cover 13 of the rear fastening means 11. The surface of the projecting part 10.1, which is in contact with the under-side of the cover 13, is inclining 10° towards the plane through the cover 13. Each rear hook 10 shows, at the end which is opposite to the projecting part 10.1, a semi-cylinder part 10.2, which extend normal to the plane through the bottom surface of the rear mounting 3, and which connects to a corresponding semi-circular surface of each opening 13.2. The rear edge of each opening 13.2 shows a flat wall extending normal to the plane through the bottom surface of the mounting 3, by which a linear contact will be achieved between the cover 13 and the hook 10. On figure 7 a horisontal section through the rear mounting 3 along the line C-C on figure 6 is shown, which in its turn shows a vertical section along the line D-D on

figure 7.

On figure 8 the front mounting 4 is shown fragmentary and with the front hooks 15 brought down into the front fastening means 16. In this position, shown in full lines on figure 2, the two mountings 3, 4 are locked to each fastening means 11, 16 and the sight is ready to be used. Each front hook 15 shows a backwards projecting part 15.1, which is engaged with the locking bar 20.1 on the locking means 20. The surface on the projecting part 15.1, which is in contact with the locking bar 20.1, is inclining 10° towards the plane through the cover 18 on the front fastening means 16. Each front hook 15 shows semi-cylinder parts 15.2 at its front end as well as its rear end, which extend normal to the plane through the bottom surface of the front mounting 4, and which connect to a corresponding semi-cylinder surface at the front edge as well as the rear edge in the cover 18 of each opening 18.2. On figure 9 a horizontal section is shown through the front mounting 4 along the line E-E on figure 8, which in its turn shows a vertical section along the line F-F on figure 9.

The locking means 20 has the shape of a H manufactured from a flat plate with a thickness corresponding the height of the cavity 19.2 in the bottom 19. The cavity 19.2 also has the shape of a H, at which the connection between the two parallel flanks are made wider than the corresponding bar 20.1 on the locking means 20, which thereby is allowed a movement in the length direction of the flanks. The locking means 20 is pushed towards its front position, in which the locking bar 20.1 is resting towards the front limiting edges of the cavity 19.2, by help of two screw springs 19.4, which are arranged in threaded holes 19.5, extending in the movement direction of the locking means 20, and which is resting towards counterbores 20.2 in the locking bar 20.1. The load from the spring can be regulated by help of screws 19.5 which is screwed into the threaded holes 19.4 in the bottom 19.

The locking means 20 can be moved backwards towards the load of the spring by help of grips 20.3 projecting from the sides of the front fastening means 16. The downwards directed surface of the locking bar 20.1 is inclining
5 towards the plane through the lower limiting surface of the cavity 19.2, i.e. also towards the plane through the cover 18, in an angle greater than 10° , preferably 30° , by which a wedge-shape contact occurs between the locking bar 20.1 and the projecting part 15.1 on each
10 front hook 15.

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PATENT CLAIMS

1. A quick-mounting for a telescopic sight (2) for a gun (1), which sight preferably is constituted by a metal tube provided with lenses, which is carried partly of a rear mounting (3) and partly of a front mounting (4), each including a base (7), and preferably a clamp (8) attached on each base (7), by which the telescopic sight (2) is kept fixed towards each base (7), at which the base (7) on each mounting (3, 4) is provided with hook-like means (10, 15), which, at the mounting of the telescopic sight (2) on the gun (1), is brought down into corresponding openings (13.2, 18.2) in fastening means (11, 16) corresponding each mounting (3, 4) and brought into engagement with corresponding locking means (13, 20), which are arranged on the fastening means (11, 16), which in its turn directly or indirectly are attached on the gun (1), at which at least one locking means (20) on one fastening means (16) is disconnectable relative to the corresponding hook-like means (15), by which these hook-like means (15) can be brought out of engagement so that the telescopic sight (2) can be removed from the gun (1), characterized in that the base (7) on each mounting (3, 4) is provided with two hook-like means (10, 15) which are arranged adjacent to each other along a line which is normal to the length direction of the telescopic sight (2), and that the hook-like means (10, 15) on at least one mounting (3, 4) show a semi-circular section (10.2, 15.2), which is directed towards the front end of the gun (1), i.e. muzzle, which extends mainly normal to the length direction of the telescopic sight (2), and which connects with a corresponding semi-cylinder at each opening (13.2, 18.2) in the fastening means (11, 16).

2. A quick-mounting according to claim 1, characterized in that the disconnectable locking means (20) shows a contact surface inclining in the same direction as the inclining contact surface of

the corresponding projecting means (15.1) or in a larger angle towards the bottom of the fastening means (16).

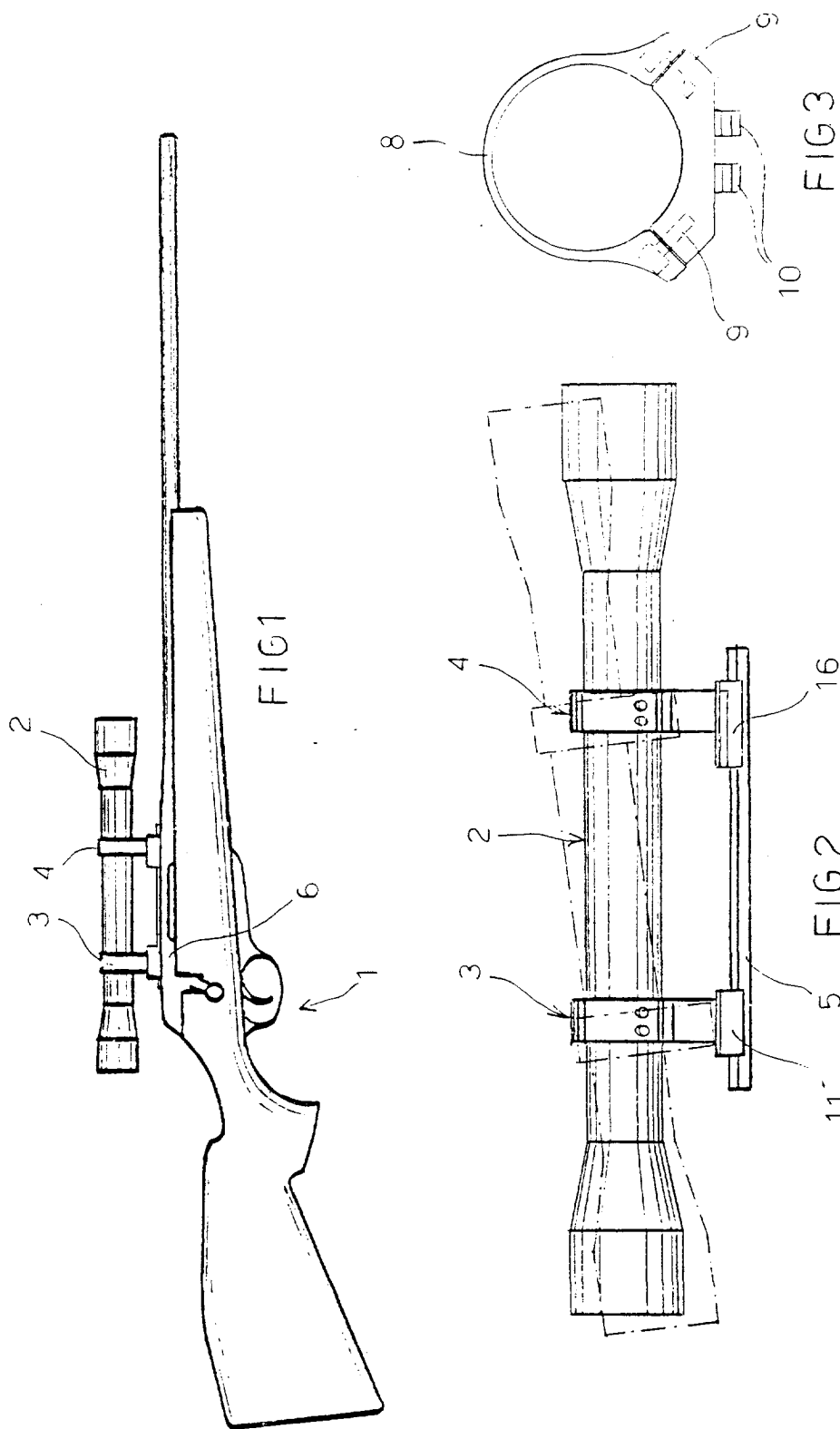
3. A quick-mounting according to claim 2, characterized in that the disconnectable locking means (20) is loaded by forces from one or more springs (19.3), which keep the hook-like means (10, 15) pushed towards the front edge of each opening (13.2, 18.2) in the fastening means (11, 16) and in a direction towards the bottom of the fastening means (11, 16).

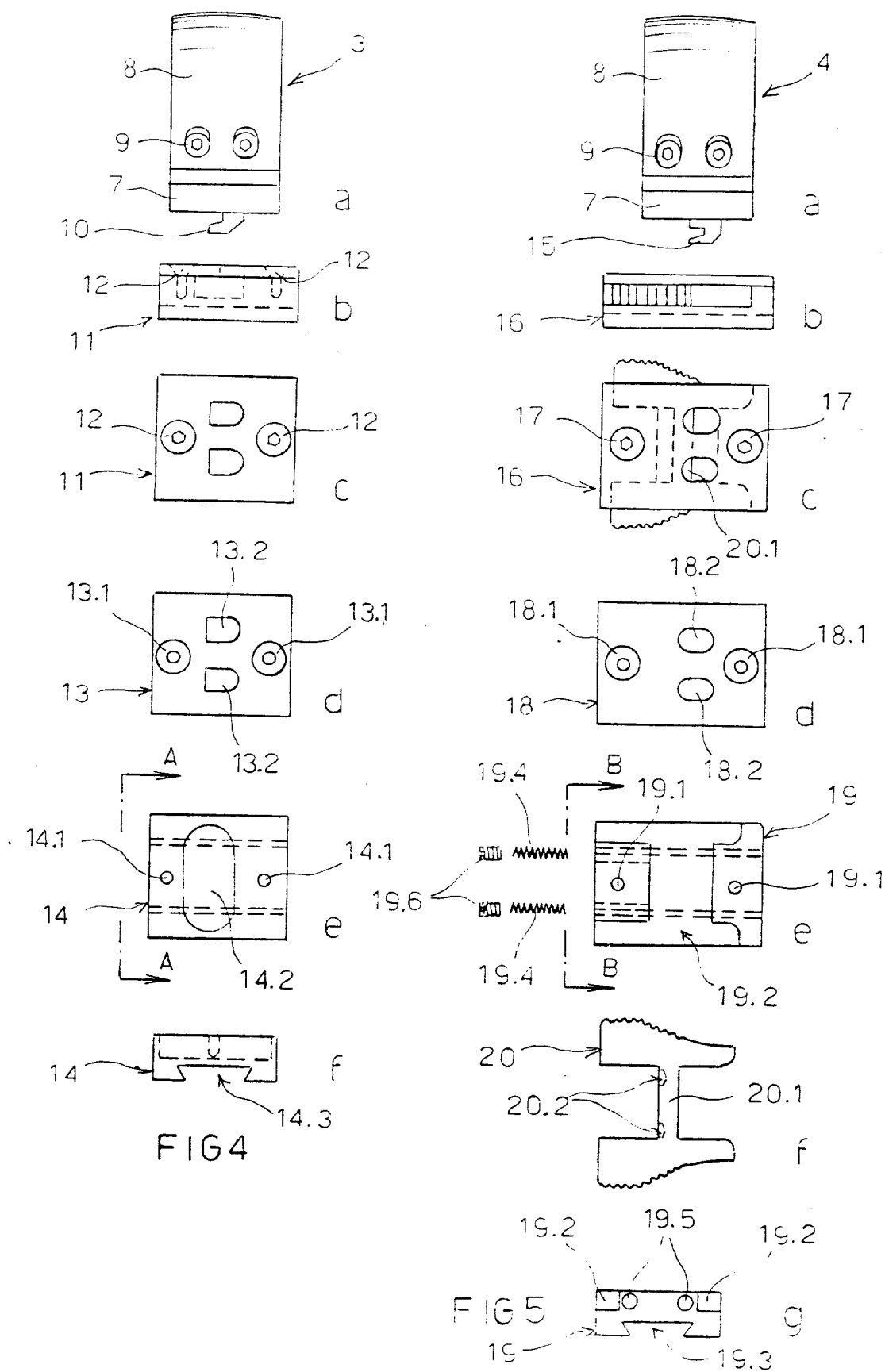
4. A quick-mounting according to claim 3, characterized in that each fastening means (11, 16) shows a bottom (14, 19), which is provided with cavities (14.2, 19.2), and a cover (13, 18), in which the openings (13.2, 18.2) for the hook-like means (10, 15) are arranged.

5. A quick-mounting according to claim 4, characterized in that each bottom (14, 19) is constituted by a square prism, in which the cavities (14.2, 19.2) are made by milling.

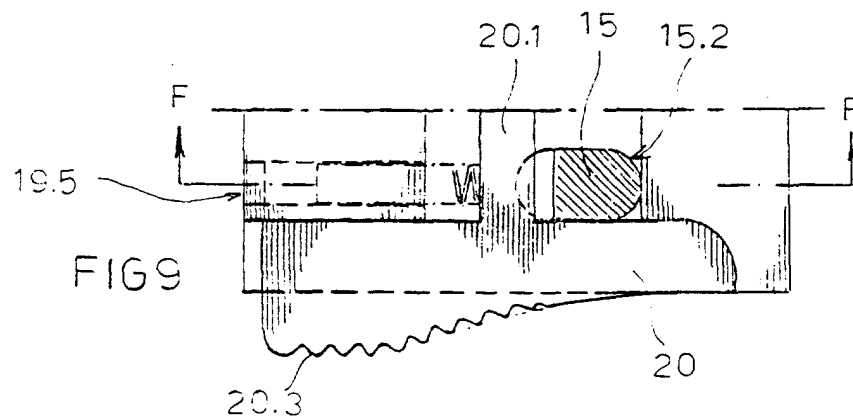
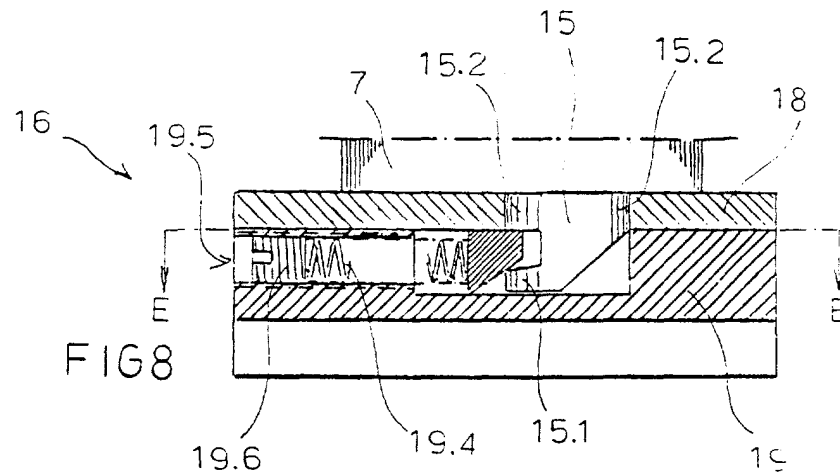
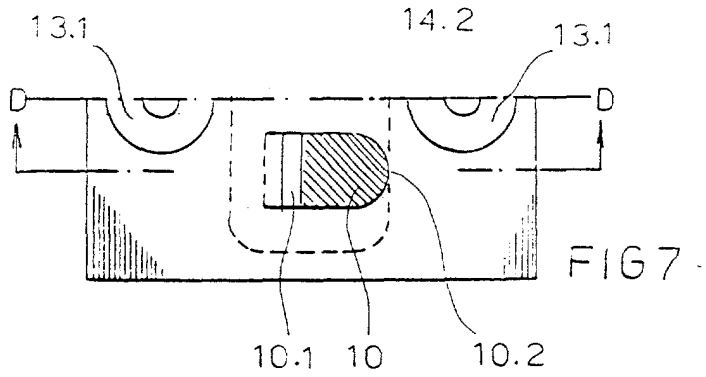
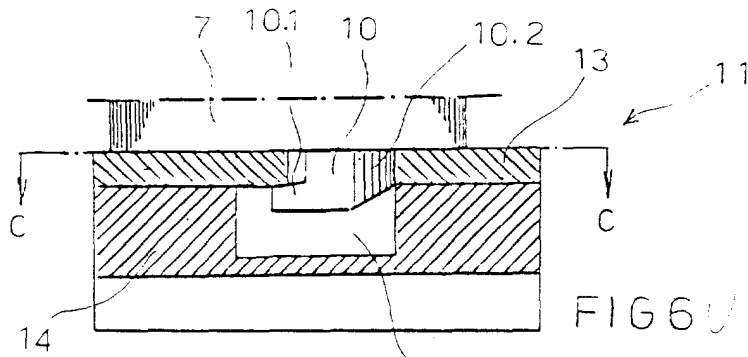
6. A quick-mounting according to claim 1-5, characterized in that the disconnectable locking means is arranged in the front mounting (4).

7. A quick-mounting according to claim 1-5, characterized in that the rear mounting (3) and the front mounting (4) are arranged on a prism (5), which in its turn is firmly attached on the gun (1).






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INTERNATIONAL SEARCH REPORT

International Application No PCT/SE88/00113

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) *		
According to International Patent Classification (IPC) or to both National Classification and IPC 4		
F 41 G 1/38		
II. FIELDS SEARCHED		
Minimum Documentation Searched 7		
Classification System	Classification Symbols	
IPC 4	F 41 G 1/00, /38, /40, /42, /44, /46, 11/00	
US C1	33: 233, 245-250	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched 8		
SE, NO, DK; FI classes as above		
III. DOCUMENTS CONSIDERED TO BE RELEVANT 9		
Category *	Citation of Document, 11 with indication, where appropriate, of the relevant passages 12	Relevant to Claim No. 13
A	DE, C, 142 545 (EMIL POLZIN) 22 July 1903 Page 1, lines 27-47; fig 3	1-7
A	DE, C, 503 692 (FIRMA CARL ZEISS) 25 July 1930 Page 2, lines 13-24; figs	1
A	DE, C2, 3 204 152 (H KRIEGHOFF) 13 September 1984 Col. 5, line 38 - col. 6, line 49; figs	1
A	DE, A, 2 240 844 (MAYER & SÖHNE) 28 February 1974 Whole document	1-7
A	DE, A, 1 578 319 (VEB FAHRZEUG- UND JAGDWAFFEWERK ERNST THÄLMANN SUHL) 11 November 1971 Whole document	1-7
A	US, A, 2 396 404 (H A WILLIAMS ET AL) 12 March 1946 Whole document	1-7
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